

REMARKS/ARGUMENTS

The claims are 2-4, 9-16, 18, 20 and 23-25. Claim 20 has been amended to improve its form. In addition, the specification has been amended to correct certain clerical errors noted therein and to provide antecedent basis for the hydraulic system comprising at least a first hydraulic chamber as recited in claim 25. Reconsideration is expressly requested.

The specification was objected to as containing clerical errors. In response, Applicant has amended the specification to correct same as requested by the Examiner.

In addition, the specification was objected to under 37 C.F.R. 1.75(d)(1) and MPEP 608.01(o) as failing to provide antecedent basis for a hydraulic system connected to a feed piston where the hydraulic system comprises at least a first hydraulic chamber. In response, Applicant has amended the specification to provide express antecedent basis. It is respectfully submitted that the entire specification as originally filed discloses a "hydraulic system comprising a first hydraulic chamber" in that a syringe which comprises a first and

a second hydraulic chamber automatically comprises a "hydraulic system." Whenever the first hydraulic chamber is connected to the feed piston, the hydraulic system itself is connected to the feed piston. That the first hydraulic chamber is connected to the feed piston is described, for example, at page 16, first paragraph, of the disclosure, which indicates that "the piston head 15 of the feed piston is put under pressure" as soon as the "hydraulic oil is...allowed to flow from the second hydraulic chamber 19 to the first hydraulic chamber 16...." Accordingly, it is respectfully submitted that the specification provides sufficient antecedent basis for the recitation in claim 25, and Applicant respectfully requests that the objection to the specification under 37 C.F.R. 1.75(d)(1) and MPEP 608.01(o) be withdrawn.

Claims 2-4, 9-16, 18, 20 and 23-25 were rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. Specifically, the second hydraulic chamber being connected to the first hydraulic chamber so as to allow for continuous regulation of flow resistance was said to lack support in the specification as originally filed.

According to the Examiner, even though the specification discloses the second hydraulic chamber being connected to the first hydraulic chamber so as to allow for regulation of flow resistance, there was said to be no disclosure of the continuous regulation of the flow resistance.

This rejection is respectfully traversed.

Under 35 U.S.C. 112, the detailed description of the invention need be only in such full, clear, concise and exact terms so as to enable any person skilled in the art to which it pertains or with which it is most nearly connected to make and use the same. Page 15, last paragraph, of the disclosure as originally filed reads that

"The valve is...with a proportional characteristic so that the volume flow and, as a result thereof, the exiting speed of the feed piston 7 can be controlled as a function of the valve travel." (Emphasis added)

Page 16, second paragraph of the original disclosure
continues:

"the treating physician feels the change in
pressure and must exert onto the key switch
24 and accordingly increased pressure in
order for the slide valve 21 to remain in the
opened position and for the valve of the
control hole 20 to remain open."

It is respectfully submitted that these sentences make
clear that Applicant's anesthetic syringe has a continuous
regulation or a continuous controlling of the slide valve and
thereby of the flow resistance. The disclosure as originally
filed explicitly describes that a control system is intended in
which the control is enabled "proportional" to the "travel" to
the slide valve. It is respectfully submitted that because the
specification talks of a "proportional" way of controlling along
a "travel," a person skilled in the art would understand that

only a "continuous" controlling characteristic makes sense and is described.

Because of this teaching of the disclosure as originally filed, the word "continuous" regulation was placed into the claims as a shorthand for clarification purposes of what was intended and enabled by the original disclosure. Accordingly, it is believed that such continuous regulation is fully supported by the original specification as filed, and it is respectfully requested that the rejection of claims 2-4, 9-16, 18, 20 and 23-25 under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement be withdrawn.

Claim 20 was rejected under 35 U.S.C. 112, second paragraph, as being indefinite for the reasons set forth on page 3 of the Office Action. In response, Applicant has amended claim 20 to improve its form, which it is respectfully submitted overcomes the Examiner's rejection under 35 U.S.C. 112, second paragraph.

Claims 9-16, 18, and 23-25 were rejected under 35 U.S.C. 102(b) as being anticipated by *Haar et al. U.S. Patent No. 6,440,099*. Claims 2-4, 9-12, 18, 20 and 23-25 were rejected under 35 U.S.C. 102(b) as being anticipated by *Love U.S. Patent No. 2,650,591*.

This rejection is respectfully traversed.

Contrary to the Examiner's position, it is respectfully submitted that FIG. 2 of *Haar et al.* does not show a syringe capable of allowing for "continuous regulation" of flow resistance. Although *Haar et al.* shows a syringe capable of allowing for continuous flow of the hydraulic fluid, *Haar et al.*'s syringe does not show any kind of regulation of the flow resistance other than in a binary way: either no flow or full flow.

In *Haar et al.*'s syringe, the user pushes the outer cover 45 in FIG. 2 forward, so that the gap in the top part of the outer cover 45 comes to rest directly underneath the user button

of the trigger 32. In that arrangement, the user exerts a force onto the trigger 32, directed inwardly toward the syringe; however, the trigger 32 does not move because the plastic connection at its foot is still intact and in one-piece with the housing of the hydraulic chamber 34. As a result, the user, i.e. the practitioner, has to increase the exerted force by pushing harder -- independent of the pressure conditions inside of the syringe.

When the plastic connection suddenly breaks, the practitioner is exerting a high force onto the trigger 32. As a result, the trigger 32 slams through the hydraulic chamber into the syringe in the very smallest part of the second. During this phase, which lasts for only a blink of an eye, it is not possible to get a haptic feedback for a human practitioner.

Also, it is not possible for a human practitioner to stop the movement in this extremely short time, especially because the breaking of the plastic connection can be gained only if a high force is exerted.

The geometry of the plastic connection part of the gas release valve 33 (i.e. the bottom part of the trigger 32) shows that a binary switching of the fluid flow is inevitable. The plastic connection between the gas release valve 33 and the gas chamber 34 is very thin. As soon as the trigger 32 moves by only as far as 1 mm, the channel originating from the chamber 34 is fully open.

This operation can -- by the way -- be derived from the wording in *Haar et al.* where the valve 33 is named as a "gas release" valve. In column 6, lines 32 to 37, *Haar et al.* speaks only of the valve being "opened" by "actuation of trigger 32," which underlines that *Haar et al.* enables only a binary operation of the syringe: the valve is either closed (FIG. 2 of *Haar et al.*) or opened (FIG. 3 of *Haar et al.*).

The extremely short moment in-between FIGS. 2 and 3 of *Haar et al.* is of course physically there, but it cannot be used in any way by a human practitioner.

Also, *Haar et al.* fails to disclose or suggest that the slide valve is capable of "progressively opening" the opening of the control hole between the first and the second hydraulic chambers which is apparent from the above explanation.

It also should be mentioned that a person skilled in the art to which Applicant's patent application is addressed is an engineer in the field of medical products which is important for the way in which Applicant's patent claims are to be interpreted.

In the present case, when "continuous regulation", and "progressively opening" are demanded in Applicant's claims, it is important whether the practitioner working with the syringe in daily practice would be able to control a "progressive opening" or whether he/she could actually get any "haptic feedback." Therefore, these words not only denote an intended use, but also result in a structural difference which distinguishes over *Haar et al.*

Love et al. also fails to anticipate Applicant's invention as recited in the claims. The syringe shown in *Love et al.* does

not include a "slide valve" but instead only a screw pin. The specification of *Love et al.* in column 3, lines 59 ff. reads:

"The valve 27 comprises a rod 37 journaled in....".

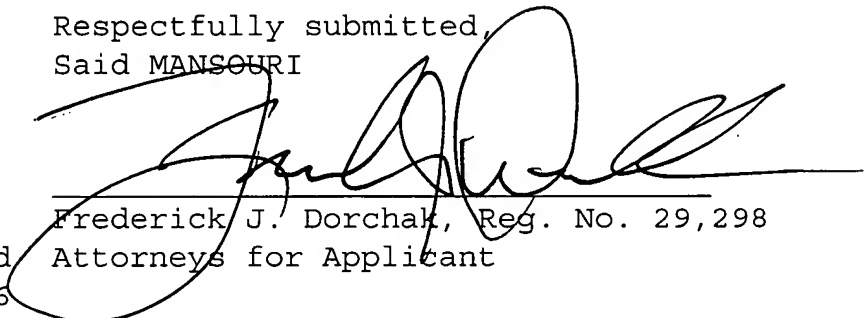
Thus, all forces exerted by the fluid in chamber 28/38 onto the rod 37 that are directed as longitudinal forces onto the head of the rod 37 are carried by the screw-seat 39 of *Love et al.* The handle 41 of *Love et al.* can therefore not give any haptic feedback to a human practitioner in daily practice.

Accordingly, it is respectfully submitted that neither *Haar et al.* nor *Love et al.* discloses or suggests Applicant's invention as recited in the claims.

In summary, claim 20 has been amended along with the specification. In view of the foregoing, it is respectfully requested that the claims be allowed and that this application be passed to issue.

Respectfully submitted,
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I hereby certify that this correspondence is being deposited with the U.S. Postal Service as first class mail in an envelope addressed to: Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on November 12, 2008.



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